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Case Report

A case of blunt trauma abdomen leading to pancreatic injury grade III and trauamatic psuedocyst of pancreas

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ABSTRACT

Blunt trauma to the abdomen with pancreatic laceration with its sequelae as psuedocyst of pancreas is a rare case presentation. We are presenting a rare case report in which a 45-year-old male patient presented to OPD with lump in abdomen and dull aching pain in abdomen in epigastric region since 1 month. Patient was a chronic alcoholic with history of blunt trauma abdomen 3 months back for which he took treatment in some local private clinic. Patient was admitted and investigated. Ultrasound abdomen pelvis showed pancreatic laceration with a large psuedocyst in body and tail of pancreas of size 12×11×0.4 cm. Contrast Computed Tomography revealed post traumatic pancreatitis with laceration of pancreas grade III with psuedocyst of size 15×11×0.6 cm in body and tail of pancreas with communication with pancreatic duct. Patient posted for exploratory laparotomy with open cystogastrostomy. Patient recovered well in post operative period.

Keywords: Trauamatic psuedocyst of pancreas, Pancreatic injury, Blunt trauma of abdomen

INTRODUCTION

Blunt trauma to the abdomen accounts for the majority of abdominal injuries. Pancreatic injury, although uncommon (2 to 9%), is the fourth most common solid organ injury, following the spleen, liver and kidneys.[1,3] Isolated pancreatic injuries are extremely rare and there is delay in presentation and subtlety of symptoms.

Traumatic pancreatic injury with pancreatitis and psuedocyst formation has high incidence of morbidity and mortality and it requires appropriate and urgent treatment. However, the best surgical approach and treatment options, which may be limited and remains controversial.

Herein, we presented a case of traumatic pancreatic injury with psuedocyst formation in an adult who presented with lump in abdomen and open cystogastrostomy was done.

CASE REPORT

A 45 years old male patient presented to OPD with pain in abdomen and lump in upper abdomen since 1 month. Patient was a chronic alcoholic and had a history of blunt trauma abdomen 3 months back for which he took treatment in private clinic. Now, on Examination patient's general condition was moderate and vitally stable. He had lump in abdomen in epigastrium and umbilical region of size approximately 10×10 cm with diffuse margins. Lump was intra-abdominal, fixed and soft in consistency. There was mild tenderness in epigastrium.

Blood investigations showed slight increase in pancreatic enzymes (serum amylase:280 U/l, serum lipase:190 U/l). Ultrasound of abdomen and pelvis showed pancreatic laceration with a large psuedocyst in body and tail of pancreas of size 12×11×0.4 cm.

X-ray abdomen at erect position showed no air under right dome of diaphragm was performed was to rule out hollow viscus perforation (Figure 1).

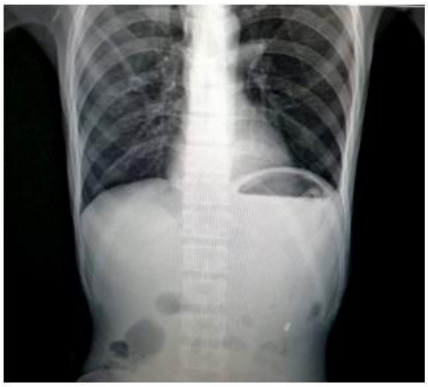

Figure 1: X-ray abdomen at erect position showed no air under right dome of diaphragm.

Contrast CT scan of abdomen and pelvis was perfomed which revealed Post traumatic pancreatitis with laceration of pancreas grade III with psuedocyst of size 15×11×0.6 cm in body and tail of pancreas with communication with pancreatic duct with no evidence of injury to other organs (Figure 2 and 3).

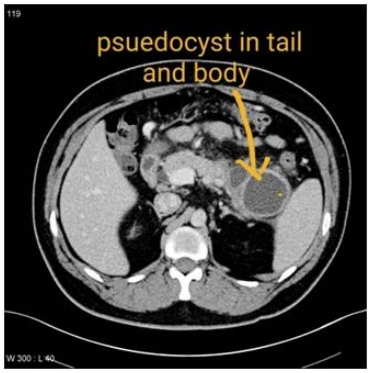

Figure 2: Contrast CT scan of abdomen and pelvis revealed laceration of pancreas grade III with pseudocyst in body and tail of pancreas.

Figure 3: Contrast CT scan of abdomen and pelvis revealed laceration of pancreas grade III with pseudocyst in body and tail of pancreas.

After initial assessment, patient was posted for exploratory laparotomy under general anaesthesia. Midline vertical laparotomy incision was taken. Evidence of stomach being pushed forwards due to psuedocyst. Anterior wall of Stomach opened. Intra-operative aspiration of cyst fluid was done with the help of needle. Confirmed the psuedocyst was done with its characteristic of engine oil appearance. Cyst fluid was sent for cytology. Other solid organs and bowel traced for any injury. Stab incision taken over posterior stomach wall. Around 150 ml of cystic fluid was aspirated and eversion of edges of cystogastrostomy was done with silk 2-0. Nasogastric tube approximated till pyloric end (Figure 4).

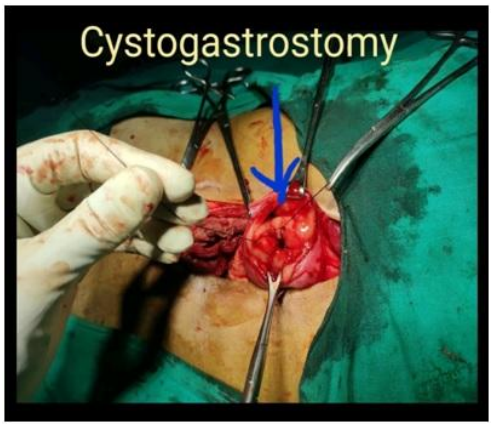

Figure 4: Showed eversion of edges of cystogastrostomy.

Stomach closed in double layers. Thorough Normal Saline lavage given and intra-abdominal drain kept in subhepatic space. Closure was done. Patient was monitored for any bleeding or hematemesis through nasogastric tube. Patient was vitally stable and tolerated for oral diet on post-operative day 5. Patient discharged on day 9 and now doing his routine activities. Cystic fluid for cytology showed necrotic cell debris with few red blood cells.

DISCUSSION

Injuries to the pancreas are rare, occurring in approximately 5% of patients with blunt abdominal trauma and 2-6% of patients with penetrating wounds.[2] Regardless of mechanism, isolated injury is particularly an unusual phenomenon as the pancreas sits in close proximity to multiple susceptible structures. Blunt trauma most often results from a direct blow to the epigastrium, as in this patient, blunt trauma causing the neck of the pancreas to be crushed against the spine, just to the left of the portal vein and superior mesenteric vessels.

Because of pancreas's retroperitoneal location, initial signs and symptoms may be subtle which can lead to delayed or missed diagnosis. The mechanism of injury is attributed to the compression of the pancreas against the rigid spinal column or by discrete intrusion forces. Young children with flatter diaphragms, thinner abdominal walls,

and higher costal margins sustain pancreatic injuries from blows to the abdomen more than adults.[3]

Optimal management of the pancreatic injury remains controversial for injuries of grades III or IV. As previously mentioned, there are established opinions on the management policy for injuries of AAST-OIS grades I, II, and V (Table 1).[4]

Table 1: American Association of the surgery of trauma classification of pancreatic trauma-Organ Injury Scale (AAST-OIS).[4]

Grade	Injury	Description of the pancreatic injury
I	Hematoma laceration	Minor contusion without ductal injury Superficial laceration without ductal injury
II	Hematoma laceration	Major contusion without ductal injury or tissue loss Major laceration without ductal injury or tissue loss
III	Laceration	Distal transection or pancreatic parenchymal injury with ductal injury
IV	Laceration	Proximal transection or pancreatic parenchymal injury involving the ampulla
V	Laceration	Massive disruption of the pancreatic head

So according to AAST-OIS, for grades III and IV injuries, surgical management is considered the basic optimal treatment.

However, the type of surgical intervention has varied from drainage only, suturing repair, to pancreatic resection with or without immediate reconstruction.[5] As all patients, who have experienced trauma undergo CT to detect injuries, the sensitivity of abdominal CT in pancreatic injury is unknown and false-positive and also negative evaluations are common. Problems relating to streak artifacts, unpacified loops of bowel and observer error persist. Trauma to adjacent organs, such as the spleen and kidneys, can further obscure evaluation of the pancreas. Lane et al reported that the actual pancreatic laceration is difficult to identify.[5] However, they mentioned that a careful evaluation of the reported secondary findings that is, intra-pancreatic hematoma, intra-peritoneal and extra-peritoneal fluid, fluid separating the splenic vein and pancreatic body and a thickened left anterior renal fascia often should lead the radiologist to the site of fracture once there is a suspicion and this definitely requires experience.[6]

CONCLUSION

Grade III pancreatic injury with traumatic pancreatic psuedocyst with pancreatic duct communication is a rare presentation following blunt trauma to abdomen and conservative approach as well as many operative procedures have been described for treatment of such injury. Open cystogastrostomy can be considered as a definitive treatment in such cases and also to avoid long term complications.

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